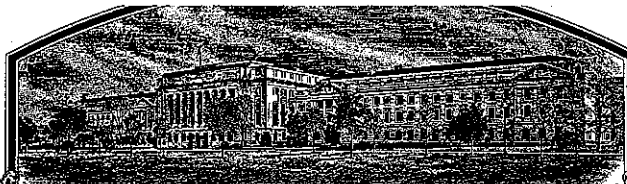


No.

200200090



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pure Seed Testing, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (34 U.S.C. 542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

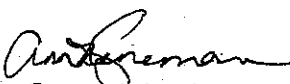
BENTGRASS, COLONIAL

'Alister'

In Testimony Whereof, I have herunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fourth day of November, in the year two thousand and four.

Attest:


Commissioner
Plant Variety Protection Office
Agricultural Marketing Service




Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Pure Seed Testing, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME PST-9F7		3. VARIETY NAME Alister	
4. ADDRESS (Street and No., or RFD No., City, State, and ZIP Code, and Country) P.O. Box 449 Hubbard, OR 97032		5. TELEPHONE (include area code) (503) 651-2130		FOR OFFICIAL USE ONLY PVPO NUMBER 200200090	
		6. FAX (include area code) (503) 263-0703		FILING DATE January 31, 2002	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Oregon		9. DATE OF INCORPORATION 1975	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Crystal Rose-Fricker Pure Seed Testing, Inc. P.O. Box 449 Hubbard, OR 97032				FILING AND EXAMINATION FEES: \$ 2705- DATE 1/31/2002 CERTIFICATION FEE: \$ 432.00 DATE 10-12-04	
11. TELEPHONE (include area code) (503) 651-2130		12. FAX (include area code) (503) 263-0703		13. E-MAIL crystal@turf-seed.com	
14. CROP KIND (Common Name) Colonial bentgrass					
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)					
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)					
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes," answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)					
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED					
21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE 6 <input checked="" type="checkbox"/> FOUNDATION 6 <input checked="" type="checkbox"/> REGISTERED 7 <input checked="" type="checkbox"/> CERTIFIED NUMBER 1, 2, 3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)					
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)					
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)					
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER 		
NAME (Please print or type) Crystal Rose-Fricker			NAME (Please print or type) Joseph K. Wipff, Ph.D.		
CAPACITY OR TITLE President		DATE 1/5/02		CAPACITY OR TITLE Taxonomist/Plant Breeder	
				DATE 1/16/02	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the Certificate.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified.
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences;
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
21. See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
21. **CONTINUED FROM FRONT** (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. **CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)
The date of first sale was a foundation lot on 9/10/01 in the USA.

23. **CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the applicant/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center—East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A.**Origin and Breeding History of Alister (9F7) Colonial bentgrass**

The summer of 1997, 10 morphologically flat, low growing, medium-late maturing plants were selected from a nursery of 5,600 Colonial bentgrass plants and called 9F7. This nursery planted fall 1996, was comprised of sprigged plants from the best progeny turf plots in trials maintained at a fairway cutting height of 0.5". Four plants trace to selections from a turf trial seeded fall of 1994. Five of the plants trace to sprigs from a turf trial seeded fall of 1995. The origins of these 10 plants trace to collections of Colonial bents made in 1982 from bluegrass roughs at the Piping Rock Club, Locust Valley, NY (Long Island). The origin of the bentgrass is unknown as this is a very old golf club and the roughs were not known to be seeded with bentgrasses. Plants from these collections were cloned and subsequent seed was harvested and sent to Pure Seed Testing in Oregon for further evaluation. This seed was used to plant the fairway turf trials in 1994 and 1995. The fall of 1998 seedlings were started from the best nine of the ten 9F7 plants that had crossed in a polycross the summer of 1997. Nineteen hundred plants comprised an isolated space plant nursery of 9F7 that were rogued for uniformity the summer of 1999. Plants were eliminated for poor seed head number leaf scald (*Rhynchosporium orthosporum*) susceptibility, light green color, uniform maturity and overall unattractiveness. Four hundred ninety-three plants were harvested as breeder seed of Alister (9F7) Colonial bentgrass the summer of 1999.

Alister is an advanced generation synthetic resulting from four cycles of phenotypic recurrent selection from polycross nurseries.

Seed production of Alister is limited to three generations of increase from breeder seed, one each of foundation, registered and certified. Alister is a stable and uniform variety. Breeder seed is maintained by Pure Seed Testing, Inc. No off-types or variants have been observed in the reproduction or multiplication from breeder seed to foundation seed. Alister Colonial bentgrass and the parents of Alister have produced turf and seed fields of equal quality, acceptable uniformity and good stability.

Novelty Statement for Alister (9F7) Colonial Bentgrass

Alister is most similar to Tiger, however, close comparison shows the following differences.

1. Alister has a heading date at least eight days later than Tiger (Table 1).
2. Alister has an unstraightened plant height at least 5.3 cm shorter than Tiger (Tables 2 and 3).
3. Alister has a panicle length at least 2.6 cm shorter than Tiger (Tables 2 and 3).
4. Alister has an internode length at least 1.9 cm shorter than Tiger (Tables 2 and 3).
5. Alister has a subtending leaf length at least 3.3 cm shorter than Tiger (Tables 2 and 3).
6. Alister has a flag leaf length at least 2 cm shorter than Tiger (Tables 2 and 3).

Table 2. 2001 mean morphological measurements for entries in a colonial bentgrass seed yield trial seeded fall of 1999 near Hubbard, OR.

Entry	Unstraightened Plant Height (cm)	Panicle Length (cm)	Internode Length (cm)	Subtending Leaf Length (cm)	Flag Leaf Length (cm)
Highland	72.2	34.7	10.3	14.0	10.0
Greenwich (EVM)	58.1	35.0	12.3	6.0	4.7
SR 7200	55.8	31.9	11.5	4.9	3.8
Tiger	56.1	31.7	9.6	11.8	8.2
Alister	50.8	29.1	7.7	8.1	5.8
9DH	54.1	28.6	8.5	9.5	7.8
LSD (0.05)	3.3	1.9	1.0	0.8	0.7

Table 3. 2000 mean morphological measurements for entries in a colonial bentgrass seed yield trial seeded fall of 1999 near Hubbard, OR.

Entry	Unstraightened Plant Height (cm)	Panicle Length (cm)	Internode Length (cm)	Subtending Leaf Length (cm)	Flag Leaf Length (cm)
Highland	66.1	47.2	9.9	12.9	12.0
SR 7200	50.6	35.1	8.2	6.1	6.6
Greenwich (EVM)	55.0	39.4	10.1	5.6	4.3
Tiger	51.5	34.4	9.1	9.5	8.0
9PM	43.6	34.5	7.8	7.7	7.8
Alister (9F7-99)	35.0	27.8	6.9	6.2	6.0
9DH	27.5	25.8	6.7	6.2	5.9
LSD (0.05)	2.1	1.7	0.7	0.7	0.7

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY PROGRAM
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(BENTGRASS)

OBJECTIVE DESCRIPTION OF VARIETY
BENTGRASS
(*Agrostis* spp.)

NAME OF APPLICANT(S) Pure Seed Testing, Inc.	TEMPORARY DESIGNATION PST-9F7	VARIETY NAME Alister
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) P.O. Box 449 Hubbard, OR 97032		FOR OFFICIAL USE ONLY PVPO NUMBER 200200090

Place the appropriate number that describes the varietal characteristics of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089). Descriptions of characters should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Give additional description for all characteristics that cannot be adequately described in the form below. Append all pertinent comparative trial and evaluation data. The symbol "▲" indicates decimal.

COMPARISON VARIETIES FOR USE BELOW

- | | | | |
|---------------|---------------|--------------|-----------------------------|
| 1 = Astoria | 2 = Exeter | 3 = Highland | 4 = Seaside |
| 5 = Penncross | 6 = Kingstown | 7 = Astra | 8 = Other (Please Specify): |

1. SPECIES

- | | |
|---|--|
| <input type="text" value="1"/> 1 = Colonial (browntop) <i>A. tenuis</i> | 2 = Creeping <i>A. stolonifera</i> (<i>A. palustris</i>) |
| 3 = Velvet <i>A. canina</i> ssp. <i>canina</i> | 4 = Brown Bent <i>A. canina</i> ssp. <i>montana</i> |
| 5 = Red Top <i>A. gigantea</i> | |

2. ADAPTATION (0 = Not Tested, 1 = Not Adapted, 2 = Adapted)

- | | | | |
|--|--|--|--|
| <input type="text" value="2"/> Northeast | <input type="text" value="1"/> Southeast | <input type="text" value="0"/> North Central | <input type="text" value="2"/> Pacific N. W. |
| <input type="text"/> Other (Please Specify): | | | |

3. MATURITY (At first anthesis): Use comparison varieties

- | | |
|---|---|
| <input type="text"/> <input type="text"/> Days earlier than | <input type="text"/> COMPARISON VARIETY |
| Maturity the same as | <input type="text"/> COMPARISON VARIETY |
| <input type="text" value="1"/> <input type="text" value="9"/> Days later than | <input type="text" value="3"/> COMPARISON VARIETY |

4. HEIGHT (Average of longest 10 shoots from soil surface to top of head)

- | | | |
|--|---|---|
| <input type="text" value="5"/> <input type="text" value="6"/> . <input type="text" value="6"/> cm Height (at maturity) | <input type="text" value="2"/> <input type="text" value="2"/> cm Shorter than | <input type="text" value="3"/> COMPARISON VARIETY |
| | Height the same as | <input type="text"/> COMPARISON VARIETY |
| | <input type="text"/> <input type="text"/> cm Taller than | <input type="text"/> COMPARISON VARIETY |

5. GROWTH HABIT

☐☐☐ % Prostrate ☐1☐0☐0 % Decumbent ☐☐☐ % Geniculate ☐☐☐ % Erect **200200090**

6. VEGETATIVE REPRODUCTION

Rhizomes: ☐2 1 = Absent 2 = Present

Stolons: ☐1 1 = Absent 2 = Present

☐1☐0☐0 % Rhizomes ☐0☐0☐0 % Stolons

7. LEAF BLADE

Color: ☐4 1 = Yellowish Green (Cohansey) 2 = Light Green (Washington)
3 = Green (Exeter) 4 = Dark Green (Kingstown, Tracenta)
5 = Bluish Green (Highland) 6 = Other (Please Specify): _____

Texture: ☐2 1 = Very Fine (Kingstown) 2 = Fine (Exeter)
(fineness) 3 = Medium Fine (Astoria) 4 = Medium (Seaside)
5 = Medium Coarse (Virginia) 6 = Coarse (Vermont)

☐☐☐☐ Stomatal density of upper leaf surface Not Taken

Lower Surface: ☐1☐0☐0 % Smooth ☐☐☐ % Rough

Upper Surface: ☐1☐0☐0 % Smooth ☐☐☐ % Rough

Margins: ☐☐☐ % Smooth ☐1☐0☐0 % Rough

☐2☐2 mm Width (Average of 10) ☐0☐1 mm Narrower than ☐3 COMPARISON VARIETY

Width same as ☐ COMPARISON VARIETY

☐☐☐ mm Wider than ☐ COMPARISON VARIETY

☐☐☐ mm Width (Flag Leaves) ☐5☐.8 cm Length (Flag Leaves)

8. LEAF SHEATH

Anthocyanin: ☐2 1 = Absent 2 = Present ☐9☐0 % Red Sheaths

9. LIGULE (lower and middle leaves)

Shape at Apex: ☐☐☐ % Acute ☐1☐0 % Rounded ☐9☐0 % Truncate

☐☐☐ % Other (Please Specify): _____

Pubescence: ☐1☐0☐0 % Glabrous ☐☐☐ % Pubescent

Margins: ☐1☐0☐0 % Entire ☐☐☐ % Toothed

☐☐☐ % Other (Please Specify): _____

☐1☐1 mm Length



10. LEMMA

Shape: ☐1☐0☐0 % Lanceolate ☐☐☐ % Ovate

☐☐☐ % Obovate ☐☐☐ % Elliptic

10. LEMMA (Continued)

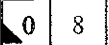
200200090

	<input type="text"/> <input type="text"/> <input type="text"/>	% Oblong	<input type="text"/> <input type="text"/> <input type="text"/>	% Other (Please Specify): _____
	mm Width		mm Length (Exclusive of awn)	
Color:	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Buff	<input type="text"/> <input type="text"/> <input type="text"/>	% Silvery
	<input type="text"/> <input type="text"/> <input type="text"/>	% Other (Please Specify): _____		
Surface:	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Glossy	<input type="text"/> <input type="text"/> <input type="text"/>	% Dull
Texture:	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Smooth	<input type="text"/> <input type="text"/> <input type="text"/>	% Punctate
Pubescence:	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Glabrous	<input type="text"/> <input type="text"/> <input type="text"/>	% Sparse
	<input type="text"/> <input type="text"/> <input type="text"/>	% Copious		
Basal Hairs:	<input type="text"/> 9 <input type="text"/> 0	% Absent	<input type="text"/> 1 <input type="text"/> 0	% Few
	<input type="text"/> <input type="text"/> <input type="text"/>	% Many	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Short
	<input type="text"/> <input type="text"/> <input type="text"/>	% Long	<input type="text"/> <input type="text"/> <input type="text"/>	% Appressed
Awns:	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Ascending	<input type="text"/> <input type="text"/> <input type="text"/>	% Spreading
	<input type="text"/> 9 <input type="text"/> 5	% Absent	<input type="text"/> <input type="text"/> 5	% Present
	<input type="text"/> <input type="text"/> <input type="text"/>	% Many	<input type="text"/> <input type="text"/> <input type="text"/>	% Awn-pointed
	<input type="text"/> <input type="text"/> <input type="text"/>	% Short	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Long
	<input type="text"/> <input type="text"/> <input type="text"/>	% Straight	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Geniculate
Awn Insertion on Lemma:	<input type="text"/> <input type="text"/> <input type="text"/>	% Basal	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Middle
	<input type="text"/> <input type="text"/> <input type="text"/>	% Distal		

11. PANICLE

Type (in anthesis):	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Open	<input type="text"/> <input type="text"/> <input type="text"/>	% Compact
Anthocyanin:	<input type="text"/> <input type="text"/> <input type="text"/>	% Absent	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Present
Branches in Anthesis:	<input type="text"/> <input type="text"/> <input type="text"/>	% Appressed	<input type="text"/> <input type="text"/> <input type="text"/>	% Ascending
	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Spreading		
Branches in Fruit:	<input type="text"/> <input type="text"/> <input type="text"/>	% Appressed	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Ascending
	<input type="text"/> <input type="text"/> <input type="text"/>	% Spreading		
Branch Surface:	<input type="text"/> <input type="text"/> <input type="text"/>	% Smooth	<input type="text"/> 1 <input type="text"/> 0 <input type="text"/> 0	% Scabrous

12. SEED

	Grams per 1000 seed
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13. SPRING GREEN UP

<input type="text"/> 2	1 = Early (Exeter)	2 = Medium (Astoria)	3 = Late (Kingstown)
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14. ENVIRONMENTAL RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

200200090

Cold Heat Drought Shade Other (Please Specify): _____

15. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="0"/> Red Leaf Spot (<i>Drechslera erythrospila</i>)	<input type="text" value="2"/> Helminthosporium Leaf Spot (<i>Bipolaris sorokiniana</i>)
<input type="text" value="0"/> Melting Out (<i>Drechslera poae</i> (<i>Helminthosporium vagans</i>))	<input type="text" value="2"/> Dollar Spot (<i>Sclerotinia homoeocarpa</i>)
<input type="text" value="1"/> Pythium Blight (<i>P. aphanidermatum</i>)	<input type="text" value="1"/> Pythium Blight (<i>P. ultimum</i>)
<input type="text" value="0"/> Fusarium Blight (<i>F. roseum</i>)	<input type="text" value="1"/> Fusarium Blight (<i>F. tricinctum</i>)
<input type="text" value="0"/> Fusarium Patch (Pink Snow Mold) (<i>F. nivale</i>)	<input type="text" value="0"/> Powdery Mildew (<i>Erysiphe graminis</i>)
<input type="text" value="0"/> Ophiobolus Patch (<i>O. graminis</i>)	<input type="text" value="0"/> Stripe Smut (<i>Ustilago striiformis</i>)
<input type="text" value="0"/> Copper Spot (<i>Gloeocercospora sorghi</i>)	<input type="text" value="0"/> Typhula Blight (Snow Scald) (<i>T. incarnata</i>)
<input type="text" value="0"/> Red Thread (<i>Corticium fuciforme</i>)	<input type="text" value="2"/> Brown Patch (<i>Rhizoctonia solani</i>)
<input type="text" value="2"/> Stem Rust (<i>Puccinia graminis</i>)	<input type="text" value="2"/> Crown Rust (<i>P. coronata</i>)
<input type="text" value="2"/> Leaf Rust (<i>P. poae-nemoralis</i>)	<input type="text"/> Other (Please Specify): _____

16. INSECT RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="0"/> European Chafer (<i>Amphimallon solstitialis</i>)	<input type="text" value="0"/> Garden Chafer (<i>Phyllopertha horticola</i>)
<input type="text" value="0"/> Chinch Bug (<i>Blissus insularis</i>)	<input type="text" value="0"/> Webworm (<i>Crambus</i> spp.)
<input type="text" value="0"/> Armyworm (Cutworm) (<i>Pseudaletia unipuncta</i>)	<input type="text"/> Other (Please Specify): _____

17. GIVE VARIETY(S) THAT MOST CLOSELY RESEMBLE THE SUBMITTED VARIETY: For the following characteristics indicate the degree of resemblance (D.R.) with one of the following numbers: 1 = submitted variety is less than, lighter, or inferior to similar variety, 2 = Same as, 3 = More than, darker or superior, etc.

Character	Similar Variety	D.R.	Character	Similar Variety	D.R.
Growth Habit	Highland	3	Leaf Color	Highland	3
Awn Length	Highland	1	Panicle Type	Highland	2
Seed Weight	Seaside	1	Turf Fineness	Highland	3
Cold Resistance	Highland	2	Heat Resistance	Highland	2
Drought Resistance	Highland	2	Shade Resistance	Highland	2
Brown Patch	Highland	3			

18. COMMENTS

Additional Description of Alister (9F7) Colonial Bentgrass

1. Alister Colonial bentgrass has good resistance to brown patch (Tables 5, 6 and 7).
2. Alister has good resistance to dollar spot (Table 5, 6 and 7).
3. Alister has good turf quality (Tables 4, 5, 6, 7 and 8).
4. Alister has good spring green-up ratings (Table 6).

Table 1. Mean initial heading dates for entries in a colonial bentgrass seed yield trial seeded fall of 1999 near Hubbard, OR.

Entry	2000	2001
PST-94568	21 June	22 June
PST-945Y	16 June	18 June
PST-9BNC	03 June	16 June
PST-9DH	09 June	16 June
Alister	14 June	14 June
Glory	11 June	13 June
PST-9FB	10 June	13 June
PST-9SG velvet bent	06 June	08 June
SR 7200	01 June	07 June
Tiger	01 June	06 June
PST-9PM	30 May	05 June
Greenwich (PST- EVM) velvet bent	27 May	01 June
Highland	21 May	26 May
LSD (0.05)	10 days	8 days

Table 4. Mean turf quality ratings for entries in a colonial bentgrass fairway turf trial seeded fall of 1998 near Hubbard, OR. (9 = ideal)

Entry	1999	2000	Mean
PST-9456	6.0	5.8	5.9
Alister (Syn 9F7)	5.8	5.7	5.7
Syn 9BNC	5.6	5.6	5.6
SRX7MOBB	5.4	5.2	5.3
Syn 9HGL	5.4	5.1	5.2
Glory	5.4	5.0	5.2
SRX7 MOD	5.1	5.2	5.2
SR 7100	5.0	5.2	5.1
Syn 98Y	5.2	4.9	5.1
Tiger	5.1	4.9	5.0
Syn 9DH	4.9	5.0	4.9
Syn 9PM	4.9	4.9	4.9
SB-1	4.3	5.2	4.8
Syn 9ER	4.6	4.7	4.7
Bardot	4.2	5.0	4.6
Highland	3.8	4.6	4.2
LSD (0.05)	0.6	0.6	0.5

Table 5. 1999 mean brown patch, dollar spot, and turf quality ratings for entries in a bentgrass turf trial seeded fall of 1998 near Rolesville, NC and mowed at 0.5". (9 = no disease; ideal quality)

<u>Entry</u>	<u>Brown Patch</u>	<u>Dollar Spot</u>	<u>Turf Quality</u>
CB 2-94	6.5	4.2	6.1
9456	3.3	8.0	5.9
ODA	7.5	5.2	5.9
Imperial	7.8	3.2	5.6
SRX 7 MODD	3.2	6.8	5.6
9HG	5.0	6.2	5.6
A2-E	7.5	6.0	5.4
Cato	5.2	4.7	5.4
SRX 1HB	6.8	5.7	5.4
Century	6.5	3.5	5.4
Penn G-6	7.5	5.2	5.3
SRX 7 MOBB	4.2	4.7	5.3
Syn 9BNC	4.2	6.0	5.3
L-93	7.7	5.2	5.2
SRX 1C4	6.5	4.3	5.1
LRF-2193	6.3	4.8	5.0
Alister	6.3	6.0	4.9
OVN	5.2	6.7	4.9
Crenshaw	5.7	3.7	4.8
CB 3-94	5.8	4.0	4.8
SRX 1BPAA	8.0	3.5	4.8
Syn 98Y	5.2	6.8	4.8
SR 1119	7.0	5.5	4.7
Southshore	6.7	4.5	4.6
SR 7100	2.3	7.0	4.6
Providence	4.5	4.0	4.6
PennLinks	6.8	5.5	4.6
9PM	5.7	6.0	4.5
Mariner	5.0	3.5	4.5
SRX 1NJH	8.2	5.0	4.3
Penneagle	5.3	5.0	4.3
Penncross	6.3	4.7	4.3
Syn 9DH	6.8	5.7	4.3
Seaside II	5.3	7.0	3.9
SR 1120	5.8	4.5	3.9
LSD (0.05)	1.7	1.7	1.1

Table 6. Performance of colonial bentgrass cultivars and selections in a fairway test seeded in September 1998 at North Brunswick, NJ.

Cultivar or Selection	Species	Turf Quality ¹ 1999 Avg.	Winter Color ² March 1999	Spring Green-up ³ April 1999	Brown Patch ⁴ 4 Aug. 1999	Brown Patch ⁴ 20 Aug. 1999	Brown Patch ⁴ Sept. 1999	Dollar Spot ⁵ Sept. 1999	Dollar Spot ⁵ Oct. 1999
1 Syn 9BNC	colonial	6.1	6.0	6.0	8.7	5.0	4.0	7.3	6.0
2 Mom AT 103	colonial	5.9	5.3	5.3	8.0	7.7	5.0	9.0	7.3
3 9456	colonial	5.6	6.7	6.3	6.7	7.0	5.0	8.7	7.7
4 Syn 9F7	colonial	5.5	5.3	6.3	9.0	6.0	5.0	7.0	5.3
5 SR 7100	colonial	5.5	4.7	7.3	7.3	8.3	5.7	8.0	5.7
6 SRX IC4	colonial	5.4	2.7	4.3	9.0	9.0	9.0	6.0	4.0
7 Syn 9DH	colonial	5.2	6.3	6.0	9.0	7.0	5.0	6.7	5.0
8 Syn 98Y	colonial	5.0	5.0	5.3	6.3	5.0	4.0	7.7	6.3
9 LRF-98-493	colonial	5.0	5.7	6.0	7.7	6.0	3.7	7.3	5.7
10 Mom At 106	colonial	5.0	6.3	6.7	7.3	7.7	5.0	8.3	6.7
11 AT-1	colonial	3.0	3.7	3.0	9.0	8.3	7.0	8.0	4.0
LSD at 5% =		0.6	1.6	1.6	2.4	2.6	2.4	1.5	1.7

¹9 = best turf quality

²9 = best winter color (green)

³9 = best spring green-up

⁴9 = least brown patch

⁵9 = least dollar spot

200200090

Table 7. 1999 mean brown patch, dollar spot, and turf quality ratings (through 10 July) for entries in a bentgrass turf trial seeded fall of 1998 near Rolesville, NC and maintained at 0.5". (9 = no disease; ideal quality)

<u>Entry</u>	<u>Brown Patch</u>	<u>Dollar Spot</u>	<u>Turf Quality</u>
CB 2-94	6.5	4.2	6.1
PST-9456	3.3	8.0	5.9
PST-ODA	7.5	5.2	5.9
Imperial	7.8	3.2	5.6
SRX 7 MODD	3.2	6.8	5.6
Glory	5.0	6.2	5.6
PST-A2E	7.5	6.0	5.4
Cato	5.2	4.7	5.4
SRX 1HB	6.8	5.7	5.4
Century	6.5	3.5	5.4
Penn G-6	7.5	5.2	5.3
SRX 7 MOBB	4.2	4.7	5.3
Syn 9BNC	4.2	6.0	5.3
L-93	7.7	5.2	5.2
SRX 1C4	6.5	4.3	5.1
LRF-2193	6.3	4.8	5.0
Syn 9F7	6.3	6.0	4.9
PST-OVN	5.2	6.7	4.9
Crenshaw	5.7	3.7	4.8
CB 3-94	5.8	4.0	4.8
SRX 1BPAA	8.0	3.5	4.8
Syn 98Y	5.2	6.8	4.8
SR 1119	7.0	5.5	4.7
Southshore	6.7	4.5	4.6
SR 7100	2.3	7.0	4.6
Providence	4.5	4.0	4.6
PennLinks	6.8	5.5	4.6
PST-9PM	5.7	6.0	4.5
Mariner	5.0	3.5	4.5
SRX 1NJH	8.2	5.0	4.3
Penneagle	5.3	5.0	4.3
Penncross	6.3	4.7	4.3
Syn 9DH	6.8	5.7	4.3
Seaside II	5.3	7.0	3.9
SR 1120	5.8	4.5	3.9
LSD (0.05)	1.7	1.7	1.1

*Entries in bold type are available from Turf Seed, Inc.

Table 8. 2000 mean heat stress and turf quality ratings for entries in a colonial bentgrass/velvet bentgrass fairway turf trial seeded fall of 1999 near Hubbard, OR. (9 = ideal)

Entry	2 Aug 00 Heat Stress	Turf Quality
Greenwich (PST-EVM) velvet	7.3	6.7
PST-9BNC	5.0	5.8
PST-9FB	3.7	5.7
9NCL Bulk	6.3	5.6
Alister (PST-9F7)	4.0	5.5
PST-94568	4.3	5.4
PST-9DH	6.0	5.3
PST-945Y	4.3	5.3
Tiger	4.0	5.0
PST-98Y	4.7	5.0
PST-9SG	5.7	4.8
LSD (0.05)	1.7	0.6

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 652a) and the Paperwork Reduction Act (PRA) of 1995.

**EXHIBIT E
 STATEMENT OF THE BASIS OF OWNERSHIP**

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Pure Seed Testing, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER PST-9F7	3. VARIETY NAME Alister
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) P.O. Box 449 Hubbard, OR 97032	5. TELEPHONE (include area code) (503) 651-2130	6. FAX (include area code) (503) 263-0703
7. PVPO NUMBER 200200090		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company?

If no, give name of country ☒ YES ☐ NO

10. Is the applicant the original breeder? If no, please answer the following:

☒ YES ☐ NO

a. If original rights to variety were owned by individual(s):
 Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country

b. If original rights to variety were owned by a company:
 Is the original breeder(s) U.S. based company? If no, give name of country

☒ YES ☐ NO

11. Additional explanation on ownership (If needed, use reverse for extra space):

Pure Seed Testing, Inc. has licensed Alister to Turf-Seed, Inc.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (now licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original breeder, both the original breeder and the applicant must meet one of the above criteria.

The original breeder may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

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